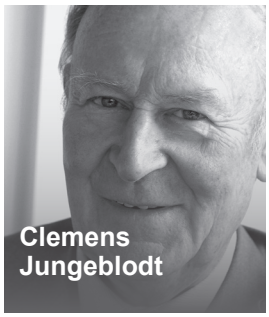
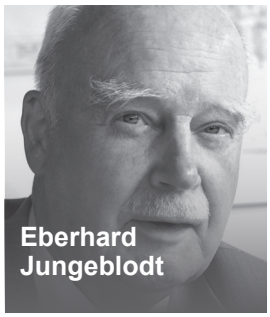
IDEAL®

WELDING MACHINES FOR WIRE AND STRANDS


Clemens Jungeblodt sen.


Clemens Jungeblodt


Eberhard Jungeblodt

IDEAL – The Pioneering Spirit of a Medium-Sized Company

In december 1923 the family business was founded - at that time under the name Elektro Apparate Bau GmbH (EAB). After a short time the company name changed and already the first electrical apparatuses were called IDEAL.

The name IDEAL is composed of „Jungeblodt Deutschland Elektro Apparatebau Lippstadt“, but one day the J became the I. In 1970, EAB was officially renamed IDEAL-Werk C.+E. Jungeblodt GmbH+Co. KG. Since then, the name IDEAL has stood for constant innovation and quality in mechanical and plant engineering. The company‘s core competence is resistance welding. In 2020, Dorothee Jungeblodt and Max Clemens Jungeblodt step down as managing directors and lead the company as third-generation shareholders.

In the same year, Dipl.-Ing. Katrin Goldhahn takes over the management and leads the company with a wealth of knowledge and experience.

The expansion of the European business and the advancement of digitalization - two major and important topics of the strategy, which drives the company under the leadership of Mrs. Goldhahn. Of course, the corporate strategy also includes the topic of sustainability. This means, for example, saving raw materials and using renewable energies. The installation of a photovoltaic system will be successfully completed in 2022.


The shareholders:
Dorothee Jungeblodt and
Dipl.-Ing. Max Clemens Jungeblodt


The management:
Dipl.-Ing. Katrin Goldhahn

The IDEAL world of welding
Innovation, quality and passion at IDEAL!

Since our foundation in 1924, we proudly stand for constant innovation and outstanding quality in mechanical and plant engineering. As a family business in its third generation, we are firmly anchored in our values and traditions.

Our core expertise is in resistance welding. With years of experience and expertise, we are leaders in this field and offer customised solutions for a wide range of applications. Our ultra-modern and high-performance welding machines enable our customers to connect worlds with each other.

We are proud of the fact that we not only offer products, but also comprehensive services. From consulting and planning to installation and maintenance, we are at our customers‘ side. Our experts work closely with our partners to fulfil their individual requirements and meet their individual requirements and achieve optimum results.

But IDEAL is not just about machines and technology. We want to shape the everyday lives of our partners for a lifetime. With our innovative products, services and data, we create an ideal world of welding. We set trends and shape developments in the industry.

We cordially invite you to find out more about us and our welding machines. Discover how our passion for quality and innovation are changing the world of welding.

Please contact us for further information or a personal consultation.

Your reliable service

We help you quickly and easily with the selection and ordering of spare parts. Provision of spare and wear parts lists for stocking.

Inhouse repairs

When we receive your machine, it will be checked by our IDEAL service technicians and a cost estimate will be prepared:

After approval of the cost estimate, the repair will be carried out.

Maintenance and inspections

For this we can offer you the following:

Maintenance contracts (Our service technicians maintain your machines at your plant)

Installation services (Should a repair still be necessary at your site, we provide a fast and reliable repair service)

Digital remote maintenance

IDEAL can intervene in a supportive manner with remote access in the event of a fault. For this purpose, we recommend digital remote maintenance to our customers.

The use of a router with PLC interface and a CLOUD service is essential so that the IDEAL service technician can connect to the machine.

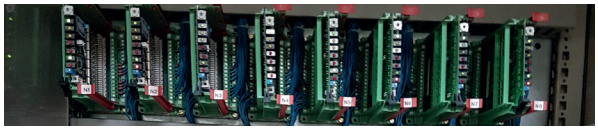
Assisted Reality

audiovisual service from IDEAL

Safe, fast, inexpensive and very close – IDEAL's audio visual service makes machine maintenance child's play and repair a simple exercise.

Downtime is minimised with the Assisted Reality connection. Our customers are supported via mobile phone, tablet or virtual data glasses by our service engineers in the best possible way.

With live audiovisual transmission, our specialists receive detailed information allowing them to swiftly identify problems and to quickly correct them with the aid of instructions and projection.



Upgrades - Retrofit

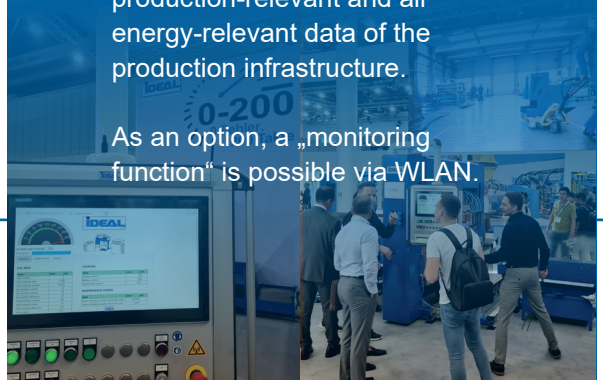
If your IDEAL machine is getting on in years - we can offer you „upgrades" for it:

- Control conversion (S7 or also Schneider > Siemens)
- Router with interface (Siemens requirement)
- New stop system (BAS 300 series)
- Thyristor shutdown (series)
- NC underwire feeding
  (retrofittable to all underwire machines of the type GAM 530)
- Welding control conversion

Our machine talks IDEAL 4.0

Via the internationally known communication medium OPC-UA, we are able to provide all production-relevant and all energy-relevant data of the production infrastructure.

As an option, a „monitoring function" is possible via WLAN.



Welding Machines for Wire and Strands

Many years of experience with the technology of resistance and laser welding, co-operation with those involved in pertinent real-life practice, cooperation arrangements with universities and research institutes, and an unerring sense for technical trends are the roots of our strong innovative abilities.

The basis of our development work is the development of our well proven standard machines and in the design of new customized and individual solutions.

IDEAL has worldwide significance in the field of the joining of wire and stranded conductors. Depending on the requirements, we offer the joining technologies butt welding, flash butt welding and dual force welding.

Our welding machines are “State of the Art” in the wire and wire strands industry. All leading manufacturers prefer to use our machines for flexible and economic welding of their material.

Butt Welding Machines for Steel and Non-Ferrous Wires

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Flash Butt Welding Machines for Steel and Aluminium Wires

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Dual Force Welding Machines for Non-Ferrous Wires

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Machines for Steel and Non-Ferrous Wires

Our wire welding machines of the DS series have been designed for draw resistant welds in wire drawing plants and cable factories, in wire processing and in front of off-coil machines. We supply proven technology for the welding of wires made of steel, stainless steel and non-ferrous materials.

In the development of the machines, the focus was placed on a simple and ergonomic approach and a robust design suitable for the hard working conditions of plants for wire processing.

All machines have as standard device for the subsequent annealing of steel with low carbon content. Optionally, and depending on the requirements of the amount of carbon, additional annealing devices with separate clamping devices that are adjustable for length are available.

For the basic machines we offer options for pre- and post treatment and the handling of wires. The modular structure of the machines thus makes it possible to adapt them to the relevant task.

Options

- Separate adjustment of jaw distance, upset pressure and current way - as an alternative to the standard central setting system
- Dual force welding procedure for high-strength welds*
- SGV annealing device for steel wire with a medium carbon content
- EGV electronic annealing device for steel wire with a higher carbon content
- GTR automatic annealing (pyrometer controlled)* for steel wire with high carbon content
- Undercarriage with two and four wheels**
- Wire shears
- Abrasive cutting tool or circular saw on the work table
- Grinding motor and folding file to deburr the weld
- Illuminated magnifying glass

DSH 130 Double pressure cutting circular saw

DSH 180 with EGV separator

DSH 070

DSH 025 with SGV

DSH 015

Some options are not available for all machine sizes.

* only available for DSH 130 and DSH 160
** DSH 130, DSH 160 and DSH 180 have an undercarriage with 4 wheels as a standard

Machines for Steel and Non-Ferrous Wires

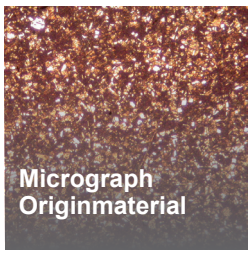
Machine type	Steel wire mm ø Version FE*	Copper wire mm ø Version NE*	Aluminium and brass wire mm ø Version NE*
DSH 015	0,15 – 1,5	0,4 – 0,8	0,5 – 1,0
DSH 025	0,4 – 2,5	0,5 – 1,8	0,8 – 2,0
DSH 0,35**	0,5 – 3,5	0,6 – 2,5	0,8 – 3,0
DSH 070**	0,8 – 7,0	1,0 – 4,0	1,0 – 6,0
DSH 090**	1,5 – 9,0	1,5 – 5,0	2,0 – 8,0
DSH 130	4,0 – 13	3,0 – 9,0	4,0 – 12
DSH 160	5,0 – 16	5,0 – 11	6,0 – 14
DSH 180	7,0 - 18	-	-

DSH 130 wire welding machine with double pressure

Optional: The Dual Force Welding Procedure

The machines of the DS series connect steel and non-ferrous wires on basis of the butt-welding procedure. We recommend our option of the dual force welding procedure for the connecting of wires.

With the conversion of our well-known dual force welding technology in the standard machines, an additional compression push can be given by a pneumatic cylinder during the regular welding procedure. This makes the grain structure finer within the heat-affected zone and improves the mechanical properties of the weld seam.



The crucial advantages are:

- finer grain structure
- higher tensile strength
- higher bending strength

Comparison of butt welding above and double pressure welding below

* the machines are supplied with various transformers for 100% adaptation to the welding task; version FE for steel wire joints and as version NE for the connection of non-ferrous wires - in addition, the NE version has as standard separate adjustment of the jaw distance, upsetting pressure and current path

** machines with a manual clamping device are optionally available as type DSF with pedal-actuated clamping device (the DSH 180 has a pneumatic clamping device)

Machines for Steel and Aluminum Wires

IDEAL is regarded as a pioneer in the field of flash butt welding technology. Our AS series machines are the first choice, in particular when it comes to achieving the highest possible tensile strength and the associated performance standards of technical requirements.

The automatic welding sequence starts with the preheating of the source, followed by the flashing, and ends with the upsetting process.

Superior advantages

- Best welding quality with metallurgical clean joints; strengths of approx. 90% (related to the base material)
- Short welding times (depending on the diameter of the wire, only a few seconds are required)
- Low requirements for final preparation (any unevenness and dirt is burnt off)
- High reproducibility of the welding parameters, optionally, effective monitoring and regulation of the welding procedure is possible
- High dimensional accuracy of the welded wires through tight length tolerances
- Optional deburring of the weld seams

The maschines are provided with a hydraulic clamping device. Rollers or feet are provided, depending on the size of the machine. The basic machines are designed for horizontal joining.

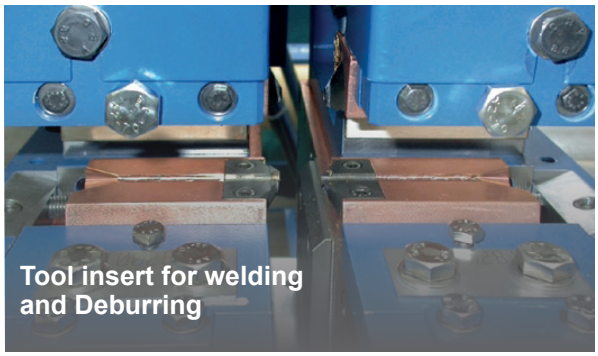
The following options are available as well

- Variety of annealing devices, partly with pyrometer
- Abrasive cutting tool
- Hand grinder to deburr the weld
- Shear deburring
- Vertical welding device

Machines for copper and non-ferrous wires

Our DDS series machines with hydraulic clamping and upsetting produce draw-resistant joints in strong non-ferrous wires.

The two-phase IDEAL dual force welding procedure makes metallurgical homogeneous joints possible. The automatic welding operation with subsequent deburring in the clamping device and the guaranteed reproducibility of the parameters result in fast and reliable welds.

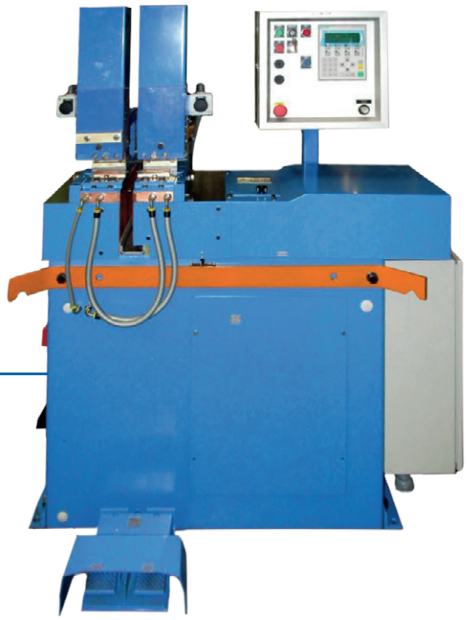


Tool insert for welding and Deburring

Double pressure welding with sheared burr

The high-productive machine!

- High economy of operation in the joining o round and profiled wires, especially when producing large coils
- Metallurgical high-quality welding in two phases; application of the welding heat to the impact point at the wire ends after switching on the preliminary pressure and the welding current
- Upsetting with a high specific upsetting force, producing clean material joints and a high tensile strength of the joints
- Time is saved and the work is made easier by automatic deburring after the welding, by shearing off and forcing open the burr ring by means of a blade made of a special steel
- The electrodes and blade inserts have been made to ensure a long life and can be replaced easily



DDS 120 double pressure Welding machine

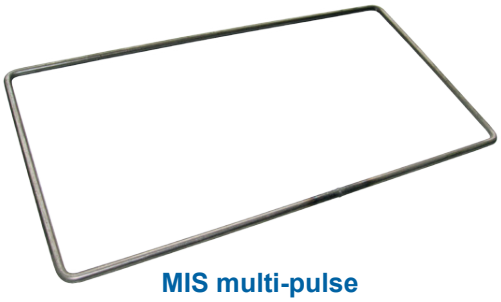
Machine type	Copper wire mm ø	Aluminium wire mm ø	Brass wire mm ø
DDS 120	6 – 12	6 – 15	6 – 12
DDS 160	6 – 16	6 – 18	6 – 16
DDS 220	10 – 22	10 – 30	8 - 20

The Series Production of Wire Products

The pneumatic butt welding machines of our DSP series are offered for series production. Thanks to an easy handling and an automated work sequence, we can achieve high production rates when manufacturing rings, frames, shaped parts and other articles made of round and profiled wire. The machines are suitable both for manual workstations as well as for integration into production lines. The electrodes are provided with water-cooling for continuous operation, and, in most of the machines, this also applies to the transformer.

In addition to conventional butt-welding, welds virtually without burrs that require little or no post-processing can be produced with the multi pulsation current control (MIS) welding option.

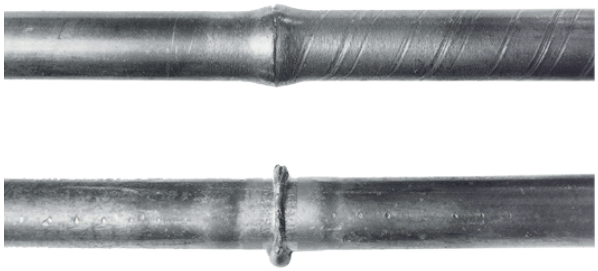
Machine type	Steel wire mm ø maximum	Steel wire mm ø Continuous operation
DSP 080	1,5 – 8,0	1,5 – 6,0
DSP 100	2,0 – 10	2,0 – 8,0
DSP 120	3,0 – 12	3,0 – 10
DSP 140	4,0 – 14	4,0 - 12



MIS multi-pulse Welded wire frame

Options

- MIS multi pulsation current control for low-burr joints that require little or no post-processing
- Continuously variable adjustment and path- or time-related switching of the welding current - for individual adaptation, to meet the requirements of the individual products
- Electronic annealing device EGV for steel wires with high carbon content, continuously variable setting of the annealing voltage and time
- Graphic control panel and PLC - for stored program control of the parameter
- Interface for line integration
- Manual end stop to attain reproducible dimensional compliance
- Special electrodes for rings, shaped parts, etc. Some options are not available for all machine sizes



Comparison butt welding & Multi-pulse welding

DSP 120 welding machine with graphic control panel

The machines of our DST series are pneumatic butt welding machines for T- and linear welds.

The automated work sequence means short cycle times. The electrodes and the transformer can be water-cooled for continuous operation.

As in the DSP series, multi pulsation current control (MIS) is available as an option.

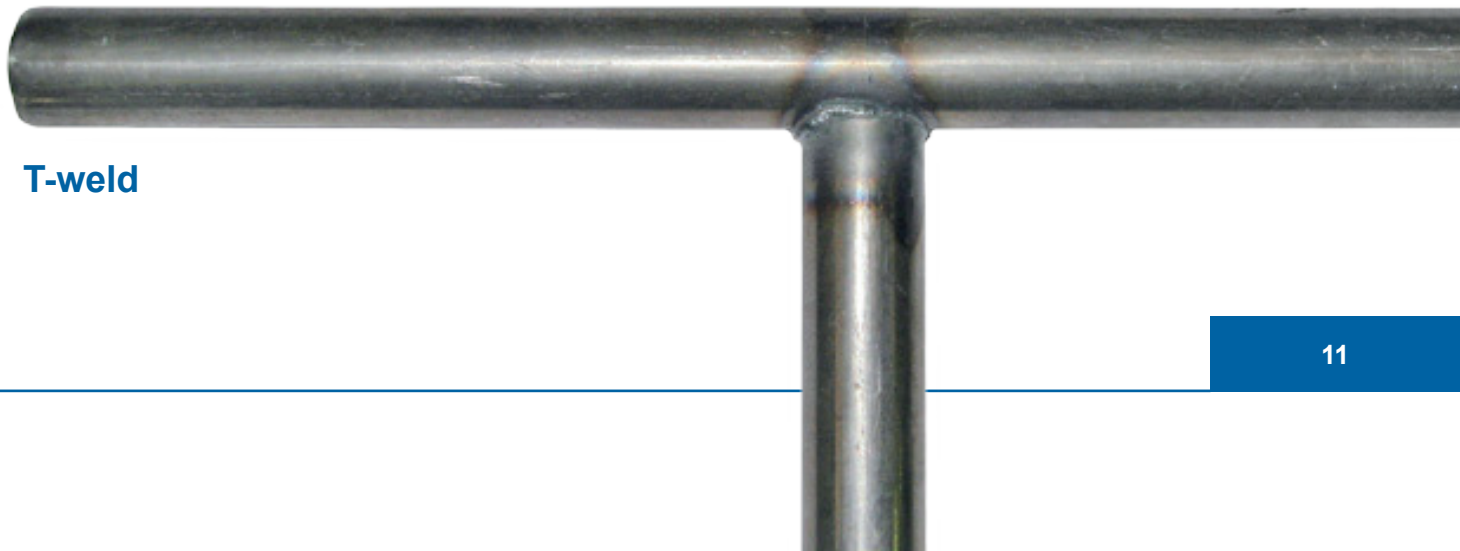
DCP/DST graphical user interface

Superior standard

- Graphic control panel for PLC-programmable input of the parameters
- Continuously variable adjustment and path-/time-dependent switching off of the welding current for individual adaptation to meet the requirements of the material

Machine type	Steel wire mm ø maximum	Steel wire mm ø Continuous operation
DST 100	2,0 – 10	2,0 – 8,0
DST 120	3,0 – 12	3,0 - 10

DST 100 welding machine



T-weld

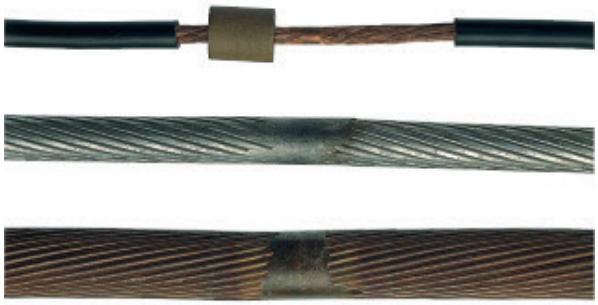
Machines for Copper and Aluminum Wire Strands

The international cable industry works with our wire strand welding machines of the LS series for the continuous operation of sheathing units for electrical conductors.

When it comes to various conductor core cross-sections, there is a choice of manually operated series production machines and special solutions using pneumatic or hydraulic systems. The simple and operationally reliable handling of the machines enables short cycle times for the joining operation.

The burr-free welds are made using the enclosed resistance welding procedures with welding sleeves made of glass, ceramics or graphite. In addition to conventional round wire strands, the use of welding sleeves allows the economic joining of sector-shaped conductors and other special shapes.

In addition to the welding machines, we can offer options and accessories for the pre- and post-processing of wire strands and for handling all of which are very useful in actual practice.



Strand welds

LSH 004

Welding tube

LSF 006

LSF 016

The machines of type LSH have a manual clamping device, while the machines of type LSF have a pedal-operated one.

Machine type	Copper wire strand mm²	Aluminum wire strand mm²
LSF 001	0,12 – 1,0	-
LSF 004*	0,2 – 4,0	0,5 – 4,0
LSF 006*	0,75 – 6,0	1,0 – 6,0
LSH 016**	1,0 – 16	2,5 – 16
LSH 035**	4,0 – 35	10 – 50
LSH 095**	6,0 – 95	16 - 95

LSF 016

LSH 095 with optional Work table and circular saw

LSF 006

* Machine with pedal-actuated clamping device, also available as LSH version with manual clamping device

** Machine with manual clamping device, also available as LSF version with pedal-actuated clamping device

Welding Machines for Steel Cord

Steel cord - a wire rope made of galvanised or brass-coated steel wire - has applications in rubber products as a form of reinforcing. Due to its high strength in conjunction with high extensibility under tension, the connection is regarded as a very demanding one from a welding point of view.

The machines of our DC series meet these requirements and weld steel cord and wire strands with helical wires.

In order to connect the strongly twisted, inhomogeneous wire strands it is necessary to melt the ends of the individual wires through electrical heating before the actual welding operation.

Wing the welding is performed in a special clamping device. The corresponding test devices are provided to check the tensile and bending strength.

As standard, the machines are provided with a parting device to melt the individual wires, the welding unit and a grinding motor.

The setting of the parting and welding parameters is continuously variable by way of thyristors and electronic timer.

Optionally, a test device for tensile strength and a grinding motor are available.

Cutting and welding of Steel cord

DCE 018 with Testing devices and grinding motor

Machine type	Steel cord mm ø	Steel cord with helical wire mm ø
DCE 018	0,5 – 1,8	1,0 – 1,8
DCE 040	1,0 – 4,0	1,8 – 4,0

Wire Rope Separating Machines

Our machines of the DT series were developed to separate wire ropes and are used for the assembly of rope products and the like.

The parting is done by means of resistance heating; the ends of the wire are melted into one another and thus splicing is prevented.

Depending on the requirements, we offer two different forms of parted ends; with a melted-on rounded end or tapered by rotation.

With IDEAL at your side you can extend your experience by more than 100 years, for new ways towards the rational production and manufacturer of products with demanding requirements.

DTR separation with fused dome

DTD separation with End tapered by rotation

Optional: Interface for line integration

Machine type	Wire rope mm ø	Parting version
DTR 040	1,5 – 4,0	rounded end melted on
DTR 080	2,0 – 8,0	rounded end melted on
DTD 080	2,0 – 8,0	tapered by rotation

DTD 080 Wire rope Cutting machine

DTR 080 Wire rope Cutting machine

IDEAL®

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